

A New Genus and Five New Species of Leafhoppers Related to *Thamnotettix* (Homop.: Cicadellidae).

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Since 1903 several species of leafhoppers (Homoptera, Cicadellidae) which live upon cane (*Arundinaria tecta*) have been described as belonging to the genus *Thamnotettix*. As these are very similar in their generic characters but differ decidedly from the members of the genus *Thamnotettix*, a new genus is erected at this time to include six species previously described and five species which have not previously been described or named.

Genus **ARUNDANUS** nov.

Vertex produced and bluntly angled, flat, margin rather thick but distinct, not rounding to front. Venation strong, central anteapical cell greatly elongated constricted and divided by a cross vein at center. Outer anteapical cell usually elongated but narrow. Inner anteapical cell short and rather broad. Type of genus *arundineus* DeLong.

The first of this group of species was described in 1903 by Dr. Ball as *Thamnotettix shermani* (1) and was collected in North Carolina. In 1915 Crumb described *nacreosus* (2) from Tennessee and placed it in *Chlorotettix*. The other four species which have previously been named were described by the author. *Flavotinctus* and *crumbi* (3) were described in 1916 and placed in *Thamnotettix*; *proprius* was described as a member of *Thamnotettix* in 1918 (4) and *arundineus* (5) as belonging to the same genus in 1926. All four of these were described from material collected in Tennessee. Five undescribed forms are treated in the following pages.

On the basis of form and structure the members of this genus seem to be divided into small groups of closely related species. The largest of these comprises *crumbi*, *flavotinctus*, *arundineus* and *proprius*. Two closely related species of another type, *carolinus* and *latidens*, seem to be most closely related to this group. *Shermani* and *marginellus* form another group differing considerably from the previous forms in having a much blunter and broader head. *Rubralineus* seems to fit most closely with this later type. *Nacreosus* which has a sexually dimorphic color condition (white female, and orange male)

is most closely related to *carolinus* and *latidens* but is rather distinct while *parvulus* a very small pointed headed species, probably is most closely related to the *carolinus* type.

Arundanus marginellus n. sp.

In form and appearance resembling *shermani* but with distinct genitalia. Length 5-5.5 mm.

Vertex flat a little more than half as long at middle as width between eyes, bluntly angled.

Color: Tawny to gray, tinged with orange, a brownish waved line just above margin and a fainter one just below; margin between these two lines conspicuously white. Face dark tawny. Pronotum marked with four conspicuous longitudinal orange stripes. Elytra tawny to brownish with pale veins.

Genitalia: Female last ventral segment long with prominent lateral angles, posterior margin indented either side of a broad median rounded tooth which is produced as far as the lateral angles and is bifid at apex. Male valve broad, obtusely angled. Plates long gradually tapering to narrow acute tips.

Described from a large series of male and female specimens collected from cane *Arundinaria tecta* at Covington, Clarksville and Nashville, TENNESSEE, during June, July and August, 1915 and 1917. *Holotype* female, *allotype* male and male and female *paratypes* in author's collection.

Arundanus rubralineus n. sp.

Resembling *shermani* and *marginellus* more than the others in the group but differing in color and genitalia. Length 5 mm.

Vertex a little broader than long, bluntly and broadly angled.

Color: Vertex creamy white without black marginal lines on margin. Two broad bright orange red stripes arise either side of vertex and extend across pronotum and basal angles of scutellum, and a short pair behind eyes on either side crossing pronotum. Elytra bright tawny, veins conspicuously white, apices smoky, veins bordered with fuscous.

Genitalia: Female last ventral segment with prominent lateral angles between which the posterior margin is sinuately, shallowly, concavely rounded at the center of which is a deep, narrow incision extending two-thirds the distance to the base.

Described from a single female specimen collected at Florence, SOUTH CAROLINA, June 19, 1930, by O. L. Cartwright. *Holotype* female in author's collection.

Arundanus carolinus n. sp.

In coloration and appearance most closely resembling *flavotinctus* but smaller, more distinctly marked and with distinct genitalia. Length 5 mm.

Vertex bluntly angled, about one-fifth wider between eyes than length at middle, pronotum a little longer than vertex.

Color orange yellow, vertex with a heavy waved line just below and a paler waved line just above margin. Veins pale, not conspicuous.

Genitalia: Female last ventral segment with broadly rounded lateral angles, posterior margin broadly shallowly concavely rounded. Male valve bluntly triangular; plates long and narrow, gradually tapered to long acute apical portions which are exceeded by the pygofers.

Described from a series of five female and two male specimens collected by the author at Chadburn, NORTH CAROLINA, June 26, 1928. *Holotype* female, *allotype* male and male and female *paratypes* in author's collection.

Arundanus latidens n. sp.

In coloration and general appearance resembling *carolinus* but with distinct female genitalia. Length 5 mm.

Vertex as in *carolinus*, bluntly angled and a little wider between eyes than length at middle.

Color orange yellow, a black line just above and a wavy black line below margin of vertex.

Genitalia: Female last ventral segment with prominent lateral angles, posterior margin concavely, broadly rounded. What appears to be a preceding segment arises at about half the length of the last ventral segment and is strongly produced to form a broad rounded median tooth one-third the width of the segment, which is produced beyond the lateral angles of the last ventral segment and covering its concavity. Male valve obtusely angled, plates long and narrow, gradually tapered to long acutely pointed apices.

Described from a series of eight female and four male specimens collected by the author at Chadburn and Carolina Beach, NORTH CAROLINA, June 22 and 24, 1928. *Holotype* female, *allotype* male and male and female *paratypes* in author's collection.

Arundanus parvulus n. sp.

Resembling *carolinus* in general appearance but smaller with more pointed vertex and with distinct genitalia. Length 4.2 mm.

Vertex more sharply angled than in *carolinus* almost as long on middle as width between the eyes, almost as long as pronotum.

Color: Yellow tinged with orange, a brownish waved line just below margin of vertex and a broken line, usually composed of four rather prominent linear spots just above margin.

Veins of elytra usually paler, faintly margined with fuscous.

Genitalia: Female last ventral segment with prominent rounded lateral angles, posterior margin concavely rounded. What appears to be a preceding segment arises near the base of the last ventral segment and is produced over it, being convexly rounded so that the central half extends over the concavity of the last ventral segment. The apex of this convex portion is broad and truncate or sinuate, sometimes appearing as three indistinct lobes.

Described from a series of sixteen female specimens, one collected at Florence, SOUTH CAROLINA, June 29, 1930, by O. L. Carwright and the others collected at Carolina Beach, NORTH CAROLINA, June 24, 1928, by the author from *Arundinaria tecta*. *Holotype* female and female *paratypes* in author's collection.

LITERATURE QUOTED.

1. BALL, E. D. Can. Ent. 35: 230, 1903.
2. CRUMB, S. E. Anns. Ent. Soc. Amer. 8: 196, 1915.
3. DELONG, D. M. Tenn. St. Bd. Ent. Bul. 17: 82, 1916.
4. DELONG, D. M. Ohio Jour. Sci. 13: 338, 1918.
5. DELONG, D. M. Trans. Amer. Ent. Soc. 52: 91, 1926.

A new record for *Archilestes grandis* (Odonata: Agrionidae sensu Selys).

Specimens of *Archilestes grandis* were collected by the writer along Long Run, a small spring-fed stream which empties into the Youghiogheny River between the towns of McKeesport and Versailles, Pennsylvania. A total of twenty-four pairs was taken on the 7, 15, 22, and 23 of September, 1934. In the majority of cases the pairs were easily netted in tandem while ovipositing in the live stems of elderberry (*Sambucus canadensis*) and willow (*Salix* sp.) which overhung the stream. The insects were numerous during the warm hours of mid-day, but disappeared early in the afternoon; the males were more numerous than the females.

This Southwestern genus has already been recorded from at least three states which are without the normal range, besides this Pennsylvania record: C. H. Kennedy informed me that *grandis* was taken at Manhattan, Kansas, by Roger C. Smith in 1920; E. B. Williamson collected it at Oxford, Ohio, in 1927; H. Garman captured twenty-eight specimens near Lexington, Kentucky, in 1929.

The insects collected for this record were identified by both Curator Kahl of the Carnegie Museum of Pittsburgh, Pennsylvania, and Dr. C. H. Kennedy of the Ohio State University of Columbus, Ohio.—CARSTEN AHRENS, McKeesport High School, McKeesport, Pennsylvania.